

What is claimed is:

1. A method for detecting a transfer shift of a transfer mechanism in a semiconductor processing equipment by using a dummy substrate different from a substrate to be processed in having a first guide for assisting a centering thereof, the dummy substrate serving as a substitute for the substrate to be processed, the equipment including:
    - a processing chamber for performing a processing on the substrate to be processed;
    - a placing table provided in the processing chamber, for mounting thereon the substrate to be processed during the processing;
    - the transfer mechanism provided at an outside of the processing chamber, for transferring the substrate to be processed on the placing table;
    - a detector provided at the outside of the processing chamber, for detecting an eccentricity and an eccentric direction of the substrate to be processed; and
    - a second guide for assisting the centering of the dummy substrate, the second guide centering the dummy substrate by being engaged with the first guide with respect to the placing table while the dummy substrate is transferred onto the placing table by the transfer mechanism,
- the method comprising the steps of:
- centering the dummy substrate with respect to the

placing table by an engagement between the first and the second guides on or above the placing table;

receiving and transferring the centered dummy substrate to the detector by using the transfer mechanism;

5 and

attaining detection values of an eccentricity and an eccentric direction of the dummy substrate by using the detector and then obtaining the transfer shift of the transfer mechanism based on the detection values.

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2. The method of claim 1, further comprising, before the step of centering the dummy wafer with respect to the placing table, the steps of:

transferring the dummy substrate to the detector;

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attaining initial detection values of an initial eccentricity and an initial eccentric direction of the dummy substrate by using the detector; and

correcting the initial eccentricity and the initial eccentric direction based on the initial detection values

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when the dummy substrate is transferred from the detector onto or above the placing table.

3. The method of claim 2, wherein the dummy substrate is transferred by the transfer mechanism before being centered with respect to the placing table.

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4. The method of claim 1, wherein the first guide has a side periphery of the dummy substrate whose diameter is greater than that of the substrate to be processed, and the second guide has a guide ring whose upper portion is provided with an upwardly widening opening, the guide ring being disposed to surround the placing table.

5. The method of claim 4, wherein a lower portion of the opening of the guide ring is set to have a substantially same diameter as that of the dummy substrate.

6. The method of claim 1, wherein the first guide has a first slant surface, and the second guide has a second slant surface for centering the dummy substrate with respect to the placing table by an engagement with the first slant surface.

7. The method of claim 6, wherein one of the first and the second slant surface is formed of a side surface of a protrusion, and the other is formed of a side surface of a recess.

8. The method of claim 7, wherein one of the protrusion and the recess is formed on a bottom surface of the dummy substrate, and the other is formed on a top surface of the placing table.

9. The method of claim 7, wherein the recess is formed on the bottom surface of the dummy substrate, and the protrusion is formed on a top portion of a lifter pin for assisting a loading/unloading of the substrate to be processed with respect to the placing table.

10. The method of claim 1, wherein the dummy substrate is essentially made of a same material of the substrate to be processed or quartz.

11. A semiconductor processing equipment for detecting a transfer shift of a transfer mechanism by using a dummy substrate different from a substrate to be processed in having a first guide for assisting a centering thereof, the dummy substrate serving as a substitute for the substrate to be processed, the equipment comprising:

a processing chamber for performing a processing on the substrate to be processed;

a placing table provided in the processing chamber, for mounting thereon the substrate to be processed during the processing;

the transfer mechanism provided at an outside of the processing chamber, for transferring the substrate to be processed on the placing table;

a detector provided at the outside of the processing

chamber, for detecting an eccentricity and an eccentric direction of the substrate to be processed;

5 a second guide for assisting the centering of the dummy substrate, the second guide centering the dummy substrate with respect to the placing table by being engaged with the first guide while the dummy substrate is transferred onto the placing table by the transfer mechanism; and

10 a control unit for controlling an operation of the equipment, wherein the control unit performs the steps of:

centering the dummy substrate with respect to the placing table by an engagement between the first and the second guides on or above the placing table;

15 receiving and transferring the centered dummy substrate to the detector by using the transfer mechanism; and

20 attaining detection values of an eccentricity and an eccentric direction of the dummy substrate by using the detector and then obtaining the transfer shift of the transfer mechanism based on the detection values.

12. The equipment of claim 11, wherein the control unit further performs, before the step of centering the dummy wafer with respect to the placing table, the steps of:

25 transferring the dummy substrate to the detector; attaining initial detection values of an initial

eccentricity and an initial eccentric direction of the dummy substrate by using the detector; and

correcting the initial eccentricity and the initial eccentric direction based on the initial detection values when the dummy substrate is transferred from the detector  
5 onto or above the placing table.

13. The equipment of claim 12, wherein control unit controls the transfer mechanism to transfer the dummy wafer  
10 that has not yet been centered with respect to the placing table.

14. The equipment of claim 11, wherein the first guide has a side periphery of the dummy substrate whose diameter is  
15 greater than that of the substrate to be processed, and wherein the second guide has a guide ring whose upper portion is provided with an upwardly widening opening, the guide ring being disposed to surround the placing table.

20 15. The equipment of claim 14, wherein a lower portion of the opening of the guide ring is set to have a substantially same diameter as that of the dummy substrate.

16. The equipment of claim 11, wherein the first guide has  
25 a first slant surface, and the second guide has a second slant surface for centering the dummy substrate with respect

to the placing table by an engagement with the first slant surface.

17. The equipment of claim 16, wherein one of the first  
5 and the second slant surface is formed of a side surface of a protrusion, and the other is formed of a side surface of a recess.

18. The equipment of claim 17, wherein one of the  
10 protrusion and the recess is formed on a bottom surface of the dummy substrate, and the other is formed on a top surface of the placing table.

19. The equipment of claim 17, wherein the recess is  
15 formed on the bottom surface of the dummy substrate, and the protrusion is formed on a top portion of a lifter pin for assisting a loading/unloading of the substrate to be processed with respect to the placing table.

20. The equipment of claim 11, wherein the control unit  
20 controls an operation of the transfer mechanism so that the obtained transfer shift can be corrected.